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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,425	03/26/2004	Magdalena Anna Bynum	10040410-1	9798

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AGILENT TECHNOLOGIES, INC.
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P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

RAMDHANIE, BOBBY

ART UNIT	PAPER NUMBER
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1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/810,425	Applicant(s) BYNUM ET AL.	
	Examiner Bobby Ramdhanie, Ph.D.	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/26/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10 & 14-25 are rejected under 35 U.S.C. 102(b) as being anticipated by McGrath et al (US5192503). Regarding Claim 1, McGrath et al teaches an apparatus for separating an array slide from a gasket slide, comprising: (A) A first substrate for contacting and attaching to the array slide (Figure 6 Item 50; (B) A second substrate for contacting and attaching to the gasket slide (Figure 6 Item 12); and (C) Separation means for separating the first substrate from said second substrate (Column 6 lines 18-21).

3. For Claim 2, McGrath et al teaches an apparatus as recited in claim 1, wherein the first substrate attaches to the array slide by way of a vacuum (Figure 5). Examiner takes the position that when the two slides are pressed together a small vacuum is created to keep the two slides together.

4. For Claim 3, McGrath et al teaches an apparatus as recited in claim 1, wherein the first substrate attaches to the array slide by way of adhesion (Column 2 lines 43-48).

5. For Claim 4, McGrath et al teaches an apparatus as recited in claim 1, wherein the first substrate attaches to the array slide by way of bonding to it (Column 2 lines 43-48).

6. For Claim 5, McGrath et al teaches an apparatus as recited in claim 1, wherein the second substrate attaches to the gasket slide by way of a vacuum. Examiner takes the position that when the two slides are pressed together a small vacuum is created to keep the two slides together.

7. For Claim 6, McGrath et al teaches an apparatus as recited in claim 1, wherein the second substrate attaches to the gasket slide by way of adhesion (Column 6 lines 32-35).

8. For Claim 7, McGrath et al teaches an apparatus as recited in claim 1, wherein the second substrate attaches to the gasket slide by way of bonding to it (Column 6 lines 32-35).

9. For Claim 8, McGrath et al teaches an apparatus as recited in claim 1, wherein the first substrate is selected from the group consisting of glass, plastic, polymers, thermoplastic materials, metal, wood and composite materials (Column 5 lines 43-45).

10. For Claim 9, McGrath et al teaches an apparatus as recited in claim 1, wherein the second substrate is selected from the group consisting of glass, plastic, polymers, thermoplastic materials, metal, wood and composite materials (Column 5 lines 43-45).

11. For Claim 10, McGrath et al teaches an apparatus as recited in claim 1, wherein the means for separating the first substrate from the second substrate is selected from the group consisting of a vise, a clamp, a fastener, a machine, a hand, a wedge, and a lever (Column 6 lines 18-21).

12. For Claim 14, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the gasket comprises a deformable material (Column 5 line 61 to Column 6 line 3).

13. For Claim 15, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the spacer comprises a substantially non-deformable material (Column 5 line 61 to Column 6 line 3). Examiner takes the position that "substantially" is a relative word and can be defined by being "hard and flexible."

14. For Claim 16, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the gasket is attached to the gasket slide (Figure 1, Items 22 & 24).

15. For Claim 17, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the gasket is attached to the array slide (Figure 6).

16. For Claim 18, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the gasket comprises a portion of the gasket slide (Figure 1 Items 22 & 24; Column 5 lines 60-65).

17. For Claim 19 McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the gasket is attached to both the gasket slide and the array slide (Figure 6).

18. For Claim 20, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the spacer is attached to the gasket slide (Figure 1; Item 24).

19. For Claim 21, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the spacer is attached to the array slide (Figure 6).

20. For Claim 22, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the spacer is attached to both the gasket slide and the array slide (Figure 6).

21. For Claim 23, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the spacer comprises a material selected from the group consisting of polyurethanes, polypropylene, plastics, acrylics, metals and non-deformable or less deformable polymers (Column 5 lines 61-65).

22. For Claim 24, McGrath et al teaches an array hybridization apparatus as recited in claim 1, wherein the spacer is between 25 to 500 microns in height (Column 5 line 60 to Column 6 line 3).

23. For Claim 25, McGrath et al teaches an array hybridization apparatus as recited in claim 11, wherein the array hybridization chamber is between 25 to 25,000 microns in height (Column 5 line 60 to Column 6 line 3). Examiner takes the position that the spatial orientation of the array is shown in Figure 6, if the approximate height value of the gasket is also given – 400 microns, then the array height can be measured as a function of the gasket value. This value would calculate to a total height of the array to be within 25 to 25000 microns.

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

26. Claims 11-13, 26 & 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath et al in view of Bippus et al (US3448510). Regarding Claim 11, McGrath et al teaches an apparatus for separating an array slide from a gasket slide, comprising: (A) A first substrate for contacting the array slide (Figure 6); (B) A second substrate opposite the first substrate for contacting the gasket slide (Figure 6). McGrath et al does not teach (C) A first vacuum source associated with the first substrate for providing a first vacuum to the first substrate for attaching the first substrate to the array slide; and (d) a second vacuum source associated with the second substrate for providing a second vacuum to the second substrate for attaching the gasket slide to the second substrate, wherein the first substrate can be separate from the second substrate and the array slide is also separated from the gasket slide.

Bippus et al teaches these features (Figure 6, Column 9 lines 3-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify McGrath et al with Bippus et al because it is well known in the art that DNA microarrays, and hybridization chambers can be manufactured onto semiconductor chips. This combination would allow for a photolithographic mask that is optimal, to be reused.

27. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath et al in view of Bippus et al (US3448510). Regarding Claim 12, McGrath et al teaches an apparatus for separating an array slide from a gasket slide, comprising: (a) a first substrate for contacting the array slide & (b) a second substrate opposite the first substrate for contacting the gasket slide (Figure 6); McGrath et al does not teach (c) a vacuum source associated with the first substrate and second substrate for providing a first vacuum to the first substrate for attaching the first substrate to the array slide and a second vacuum to the second substrate for attaching the gasket slide to the second substrate, wherein the first substrate can be separated from the second substrate and wherein the array slide is also separated from the gasket slide. Bippus et al teaches these features (Figure 6, Column 9 lines 3-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify McGrath et al with Bippus et al because it is well known in the art that DNA microarrays, and hybridization chambers can be manufactured onto semiconductor chips. This combination would allow for a photolithographic mask that is optimal, to be reused.

28. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath et al in view of Bippus et al (US3448510). Regarding Claim 13, McGrath et al teaches an apparatus for separating an array slide from a gasket slide, comprising: (a) a first substrate for contacting the array slide, the first substrate comprising a first means for attaching to the array slide (Figure 6) and (b) a second substrate for contacting and attaching to the gasket slide the second substrate comprising a second means for attaching the second substrate to the gasket slide (Figure 6). McGrath et al does not teach (c) means for separating said first substrate from said second substrate and concomitantly separating the array slide from the gasket slide. Bippus et al teaches this feature (Figure 6; Column 9 lines 3-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify McGrath et al with Bippus et al because it is well known in the art that DNA microarrays, and hybridization chambers can be manufactured onto semiconductor chips. This combination would allow for an optimal photolithographic mask to be reused.

29. Claims 26 & 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath et al in view of Bippus et al (US3448510). Regarding Claims 26 & 27, McGrath et al teaches all of the claimed features of the array hybridization apparatus except for the vacuum. Bippus et al teaches this feature (Figure 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify McGrath et al with Bippus et al and come up with the method of the instant claim because it is well known in the art that DNA microarrays, and hybridization chambers can be manufactured onto semiconductor chips. This combination would allow for an optimal

photolithographic mask, to be reused or interchanged with other masks for developing a wide variety of hybridization chambers.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bobby Ramdhanie, Ph.D. whose telephone number is 571-270-3240. The examiner can normally be reached on Mon-Fri 8-5 (Alt Fri off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BR


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SUPERVISORY PATENT EXAMINER